CLAIMS

What is claimed is:

1. A method for intelligently bridging a first network and a second network, comprising:

    a. binding a protocol independent bridge device driver to a first and a second network interface card device driver to access the first and the second network;

    b. adaptively deriving topology of the first and the second network from network packets of the first and the second network that are received by the bridge device driver; and

    c. delivering the received network packets based on information contained in the received network packets and the derived topology.

2. The method according to claim 1, wherein the bridge device driver is a protocol independent intermediate driver that utilizes a standardized driver interface.

3. The method according to claim 2, further comprising:

    a. exposing a first application programming interface to the standardized driver interface and a protocol driver;

b. exposing a second application programming interface to the standardized

driver interface and the first and the second network interface card drivers;

and

c. translating instructions from the protocol driver, the standardized driver

interface and the first and the second network interface card drivers to

effectuate transparency of the bridge device driver.

4. The method according to claim 1, further comprising:

generating and modifying entries of unmatched source addresses and associated

network information of the received network packets in a distribution table.

5. The method according to claim 4, further comprising:

a. filtering the received network packets by comparing source addresses of the

received network packets to the generated entries of unmatched source

addresses; and

b. delivering the filtered received network packets according to their destination

addresses, packet types and information in the distribution table.

6. The method according to claim 2, the standardized driver interface refers to

Network Driver Interface Specification.

7. A machine readable medium having embodied thereon instructions of a bridge device driver, which when executed by a machine, causes the machine to intelligently bridge a first network and a second network, the instructions comprising:

   a. accessing the first and the second network through interfacing with a first and a second network interface card driver;

   b. adaptively deriving topology of the first and the second network from network packets that are received from the first and the second network; and

   c. delivering the received network packets based on information contained in the received network packets and the derived topology.

8. The machine readable medium according to claim 7, wherein the bridge device driver is a protocol independent intermediate driver that utilizes a standardized driver interface.

9. The machine readable medium according to claim 8, the instructions further comprising:

   d. exposing a first application programming interface to the standardized driver interface and a protocol driver;

e. exposing a second application programming interface to the standardized

driver interface and the first and the second network interface card drivers;

and

f. translating instructions from the protocol driver, the standardized driver

interface and the first and the second network interface card drivers to

effectuate transparency of the bridge device driver.

10. The machine readable medium according to claim 7, the instructions further

comprising:

generating and modifying entries of unmatched source addresses and associated

network information of the received network packets in a distribution table.

11. The machine readable medium according to claim 10, the instructions further

comprising:

c. filtering the received network packets by comparing source addresses of the

received network packets to the generated entries of unmatched source

addresses; and

d. delivering the filtered received network packets according to their destination

addresses, packet types and information in the distribution table.

12. The machine readable medium according to claim 8, the standardized driver interface refers to Network Driver Interface Specification.

13. A computer system, comprising:

   a. a first network interface card to couple to a first network and a second network interface card to couple to a second network;

   b. a system controller, coupled to a processor and coupled to an Input/Output controller hub that further couples to the first and the second network interface cards;

   c. a memory subsystem, having embodied thereon instructions for a protocol independent bridge device driver, which when executed by the processor, causes the computer system to intelligently bridge the first network and the second network by:

      interfacing the bridge device bridge with a first and a second network interface card driver;

      adaptively deriving topology of the first and the second network from network packets received from the first and the second network; and

      delivering the received network packets based on information contained in the received network packets and the derived topology.

14. The computer system according to claim 13, wherein the bridge device driver is an intermediate driver that utilizes a standardized driver interface resident in the memory subsystem.

15. The computer system according to claim 14, the bridge device driver further comprises:

an Application Programming Interface translator to

exposes a first application programming interface to the standardized driver interface and a protocol driver;

expose a second application programming interface to the standardized driver interface and the first and the second network interface card drivers; and

translate instructions from the protocol driver, the standardized driver interface and the first and the second network interface card drivers to effectuate transparency of the bridge device driver.

16. The computer system according to claim 13, the bridge device driver further comprises:

a packet analyzer to generate and modify entries of unmatched source addresses and associated network information of the received network packets in a distribution table.

17. The computer system according to claim 16, the bridge device driver further comprises:

a packet delivery engine to

filter the received network packets by comparing source addresses of the received network packets to the generated entries of unmatched source addresses; and

deliver the filtered received network packets according to their destination addresses, packet types and information in the distribution table.

18. The computer system according to claim 14, the standardized driver interface refers to Network Driver Interface Specification.